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TIM BABCOCK
GOVERNOR

PAUL M. JOHNSON
STATE HIGHWAY ENGINEER

IN REPLY REFER TO
10-PMJ

January 27, 1967

The Honorable Tim Babcock
Governor of Montana
State Capitol
Helena, Montana

Dear Governor Babcock:

Building and maintaining the Montana State Highway System is a continuing responsibility. It is the duty of those responsible to provide adequate facilities for the generations to follow.

With this responsibility in mind, the following report has been prepared. It reflects the astounding growth of our state in people, in vehicles, and in highway travel.

Its conclusions point out the need for additional effort today to match the growth of tomorrow.

Very truly yours,

PAUL M. JOHNSON, P.E.
State Highway Engineer

TRIBUNE PRINTING

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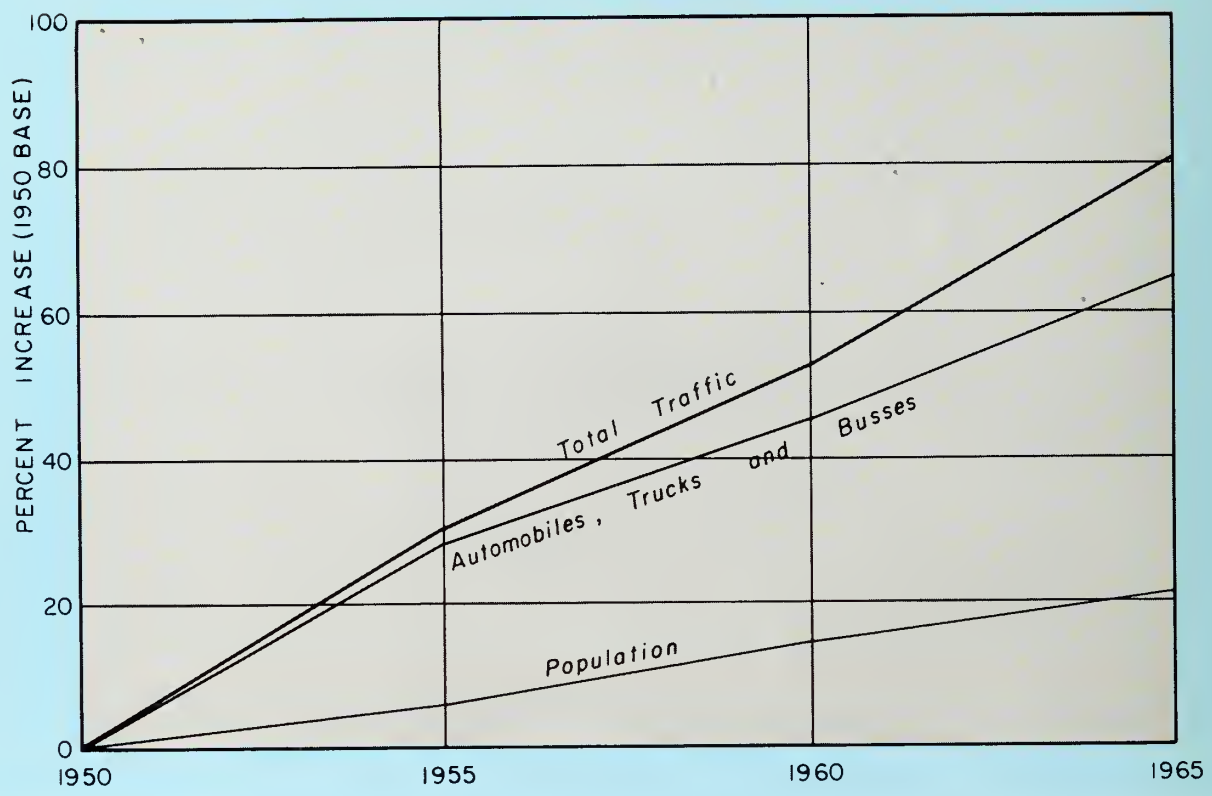
Montana Highway Needs

The next two decades are critical years for the people of Montana and their highway needs.

A recently completed study by Montana Highway Engineers shows that by 1985 Montana should invest 1.7 billion dollars in its Federal-aid Interstate, Primary and Secondary highway systems. To raise this amount under present financing would require more than 30 years.

Highway financing and highway needs must be brought more nearly in balance, if the people of this growing state are to be served. ■

TRENDS IN POPULATION, VEHICLES
AND TRAFFIC FROM 1950 TO 1965



Past Progress . . .

Montana, the fourth largest state in the Union, ranks forty-second in population. It is a large state, being 275 miles wide and 550 miles long, with a total land area of 147,138 square miles. The 1965 population is estimated at 707,000 persons. Fifty percent of the population is located in urban areas as compared with 70% urban population for the nation as a whole.

The portion of the state east of the Continental Divide consists largely of vast prairies used for livestock raising and dryland grain farming. The portion of the state west of the Continental Divide consists largely of mountains, forests, lakes and streams, with most of the development in the large mountain valleys.

The characteristics of vast distances and restricted population make it mandatory that a large network of highways, roads and streets be constructed and maintained to serve the State's transportation needs. Since the population density in Montana is 4.6 persons per square mile as compared to 50.5 per square mile in the United States, it is evident that the cost per capita to construct and maintain a mile of road, street or highway in Montana is much greater proportionately than similar costs for the nation as a whole.

In addition to serving 707,000 Montana residents, our network of highways, roads and streets also serves 2,300,000 out-of-state visitors per year.

As shown in the accompanying table and graphs, the population from 1950 to 1965 has increased by 20% whereas motor vehicle registrations have increased by 64% and traffic has increased by 81%.

During this period, the total mileage of highways, roads and streets in the state has remained relatively constant, increasing only 3%. Efforts have been devoted to improving the conditions of the existing facilities rather than to construct a substantial amount of new facilities beyond the existing mileage.

Although the total mileage has increased only 3%, the hard-surfaced mileage on all facilities has increased from 5,957 miles in 1950 to 10,498 miles in 1965, an increase of 76%. Despite this increase, only 14% of the total mileage had a hard surface of some type as of 1965.

From 1950 to 1965, the mileage of **state highways** increased from 8,878 miles to 11,649 miles, an increase of 31%. During the same period, hard-surfaced mileage has increased from 5,547 miles to 8,285 miles, which is an increase of 49% during the period. The hard-surfaced mileage increased from 62%

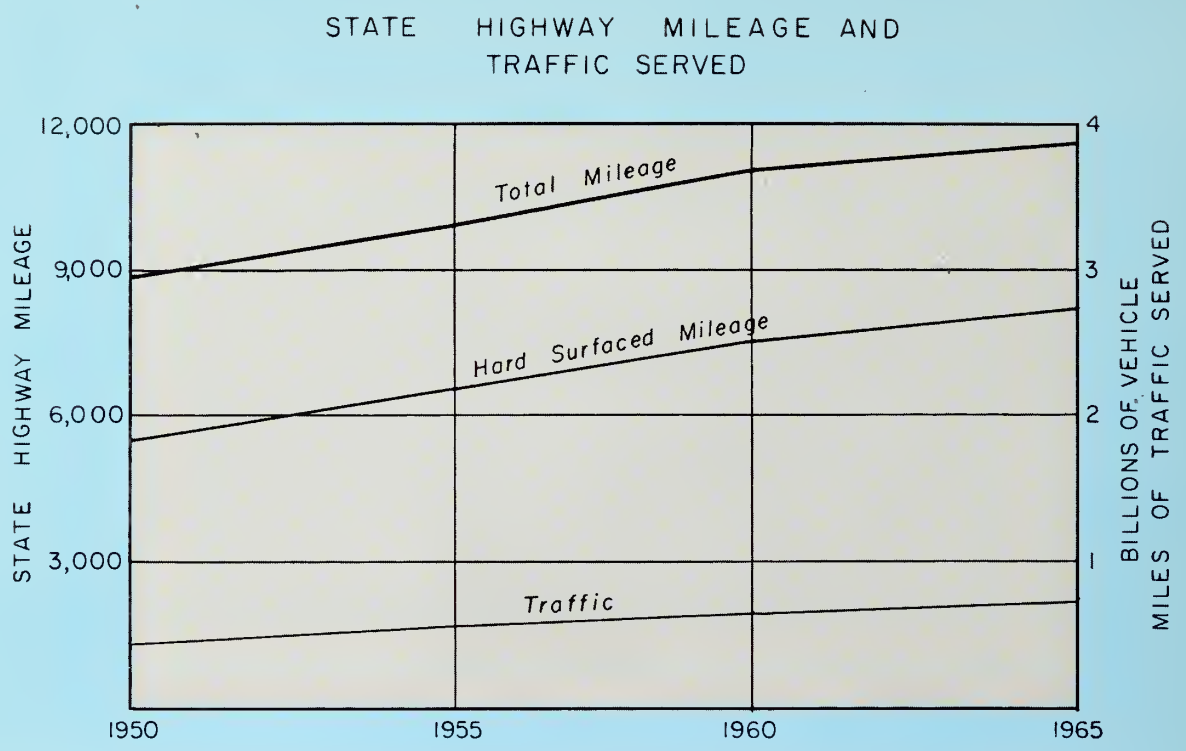
Continued

1912

An old time Wayne automobile makes its way over dirt and mud between Boulder and Basin over present day U.S. 91. Times have changed in 54 years.

1966

Interstate 90 west of Butte is in sharp contrast to the days of mud in 1912. Here a new four-lane, divided highway moves Montanans faster and safer . . . and without the delays of yesteryear.



of the total in 1950 to 71% of the total in 1965.

Most of the increase in total state highway mileage was created by the trasnfer of county roads and city streets to the State Secondary System. A small amount of the over-all increase also occurred through the construction of new Interstate highways in addition to the existing highways which they replaced but which have been kept in service for local usage.

Traffic on state highways has increased from 1,290,000,000 annual vehicle miles in 1950 to 2,342,000,000 annual vehicle miles in 1965, an increase of 82% during the period.

State highway receipts and expenditures have increased from about $18 million during 1950 to about $83 million during 1965. This amounts to an increase of 353% during the period which arose largely from a moderate increase in Federal funds provided for the Primary and Secondary Systems and a major increase in the Federal funds provided for construction of the new Interstate Highway System.

During this period, state highway contract awards increased from about $10 million in 1950 to $41 million in 1965, or an increase of 319% during the period. ■

Historical Data

From 1950 to 1965

GENERAL	1950	1955	1960	1965	INCREASE 1950 to 1965
Population	591,000	633,000	675,000	707,000	20%
Automobiles, Trucks and Busses	259,287	334,240	378,527	426,294	64%
Motor Fuel Used (thousands of gallons)	176,755	229,296	269,646	319,584	81%
Total Traffic (millions of vehicle miles)	2,046	2,655	3,122	3,700	81%
Total Mileage of Highways, Roads and Streets	71,727	72,925	74,911	73,885	3%
Hard-Surfaced Mileage	5,957	7,622	9,248	10,498	76%
Per Cent Hard Surfaced	8%	10%	12%	14%	75%
STATE HIGHWAYS					
Mileage of State Highways	8,878	9,919	11,144	11,649	31%
Hard-Surfaced Mileage	5,547	6,543	7,632	8,285	49%
Per Cent Hard Surfaced	62%	66%	68%	71%	15%
Traffic Served (millions of vehicle miles)	1,290	1,727	2,028	2,342	82%
State Highway Receipts	$18,395,723	$26,842,860	$52,830,649	$83,331,778	353%
State Highway Expenditures	$18,232,296	$25,949,978	$46,156,923	$82,522,301	353%
State Highway Contracts	$ 9,728,950	$19,043,381	$30,441,926	$40,805,627	319%

Interstate 90
Butte

Interstate 15
Helena

Present Status . . .

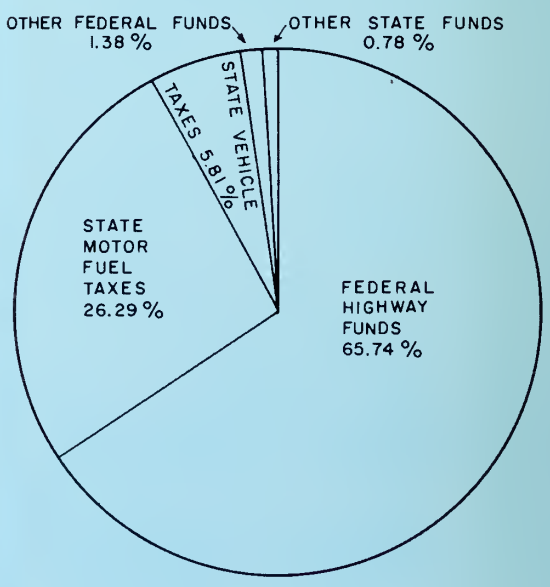
The Interstate System, as it is known today, was created with the passage of the Federal Aid Highway Act of 1956. Following the passage of this act, substantial amounts of Federal monies for construction of the Interstate System were allocated to the State. However, this money could not be put to contract immediately since it was necessary to make field surveys, prepare plans, and acquire right-of-way for the new highway construction.

As a consequence, there was a substantial backlog of State and Federal funds which accumulated in the years following 1956. During the last few years, however, major progress has been made in placing these funds under contract and it is expected that the accumulated backlog of construction funds will be eliminated by the end of fiscal year 1967.

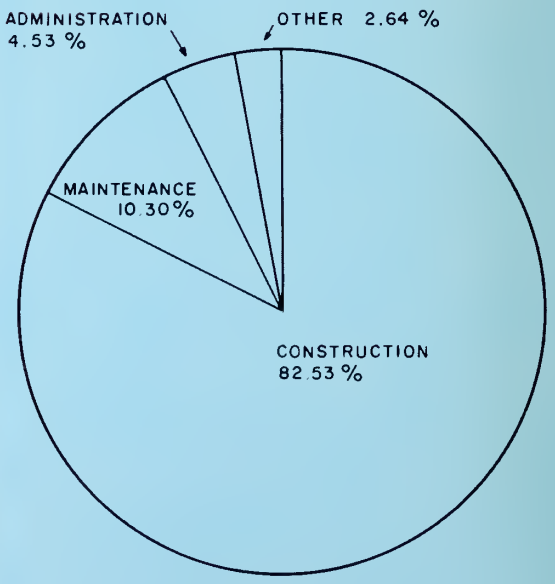
During 1966, as shown in the accompanying table, contracts were awarded for 254 miles of highway construction at a total cost of $36,494,523. During the same year, the contracts were completed for 318 miles of highways at a cost of $61,177,249.

Continued

DISTRIBUTION OF STATE HIGHWAY RECEIPTS AND EXPENDITURES FISCAL YEAR 1966


OTHER FEDERAL FUNDS 1.38 %
OTHER STATE FUNDS 0.78 %
STATE VEHICLE
TAXES 5.81 %
STATE MOTOR FUEL TAXES 26.29 %
FEDERAL HIGHWAY FUNDS 65.74 %

RECEIPTS



EXPENDITURES

Current Highway Facts

SYSTEM	MILEAGE				TRAFFIC SERVED IN MILLIONS OF VEHICLE MILES			
	RURAL	URBAN	TOTAL	% OF STATE TOTAL	RURAL	URBAN	TOTAL	TOTAL % OF STATE
Interstate	1,190	41	1,231	1.67	756	77	833	22.52
Primary	4,583	133	4,716	6.38	1,220	178	1,398	37.78
Secondary	5,630	72	5,702	7.72	366	48	414	11.19
Subtotal—State Highways	11,403	246	11,649	15.77	2,342	303	2,645	71.49
Rural Roads	60,411	.....	60,411	81.76	665	.....	665	17.97
City Streets	.....	1,825	1,825	2.47	.....	390	390	10.54
TOTAL—All Facilities	71,814	2,071	73,885	100.00	3,007	693	3,700	100.00

STATE HIGHWAY RECEIPTS
(F.Y. 1966)

Federal Highway Funds	$50,927,845	65.74
Other Federal Funds	1,070,302	1.38
State Motor Fuel Taxes	20,364,382	26.29
State Vehicle Taxes	4,502,054	5.81
Other State Taxes	598,926	0.78
TOTAL	$77,463,509	100.00

STATE HIGHWAY EXPENDITURES
(F.Y. 1966)

Construction	$66,041,293	82.53
Maintenance	8,243,055	10.30
Administration	3,622,742	4.53
Other	2,114,501	2.64
TOTAL	$80,021,591	100.00

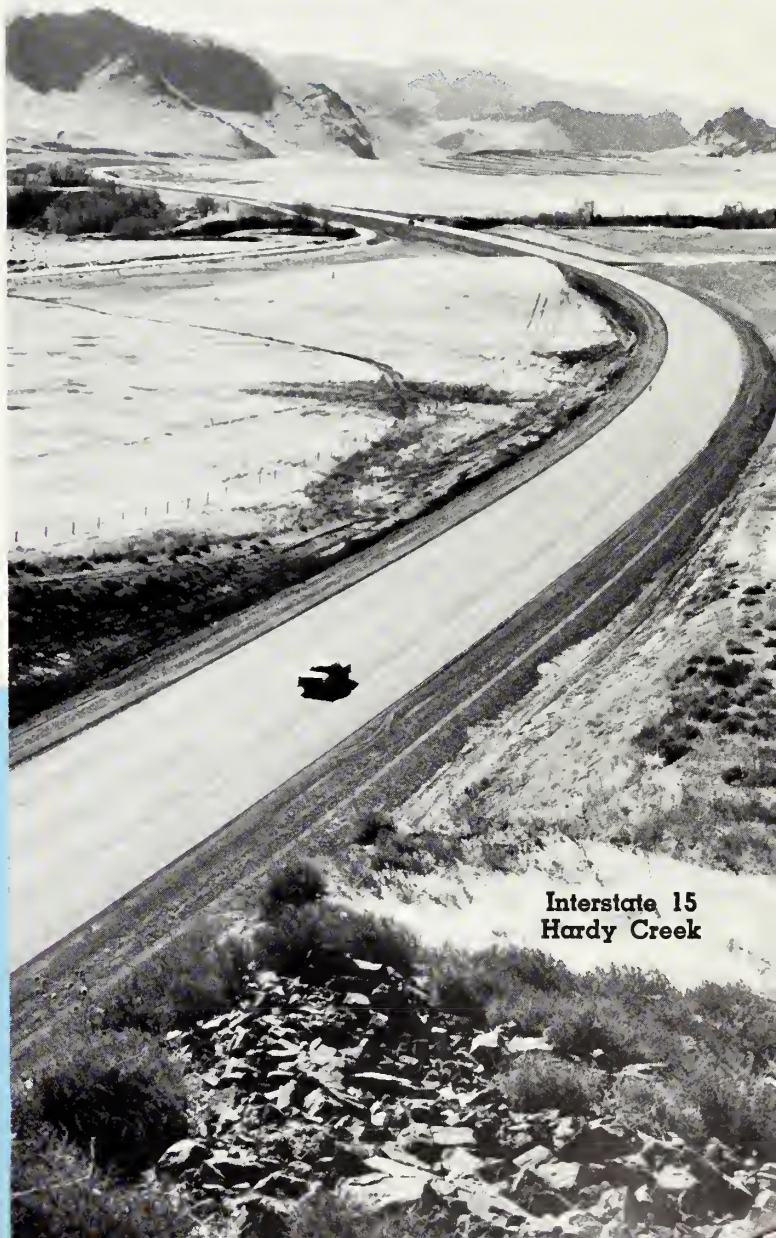
At the close of 1966, 434 miles of Interstate construction had been completed at a cost of $157,595,334. Contracts for this system were under way for 107 miles at a cost of $39,938,316. In addition, there were about 38 miles of Interstate Highway, which substantially met Interstate standards, that had been constructed at a cost of $2,342,260. To date, therefore, 579 miles out of 1,180 miles have been contracted at a total cost of $199,875,910.

Of the Interstate mileage completed, 47% has been constructed to four-lane standards and 53% has been constructed to two-lane standards.

The Federal Aid Highway Act of 1966 provides that the entire Interstate System shall be constructed to four-lane standards, so it will be necessary to reconstruct to four-lane standards the present 238 miles that have already been constructed to two-lane standards. There are also 312 miles of highways which were being designed to two-lane standards which must now be converted to the new four-lane standards.

During fiscal year 1966, State Highway receipts amounted to $77,463,509, of which 67% represents Federal funds. Expenditures during the same period amounted to $80,021,591, with 83% being spent for construction, 10% for maintenance, 5% for administration, and 2% for miscellaneous items.

Continued



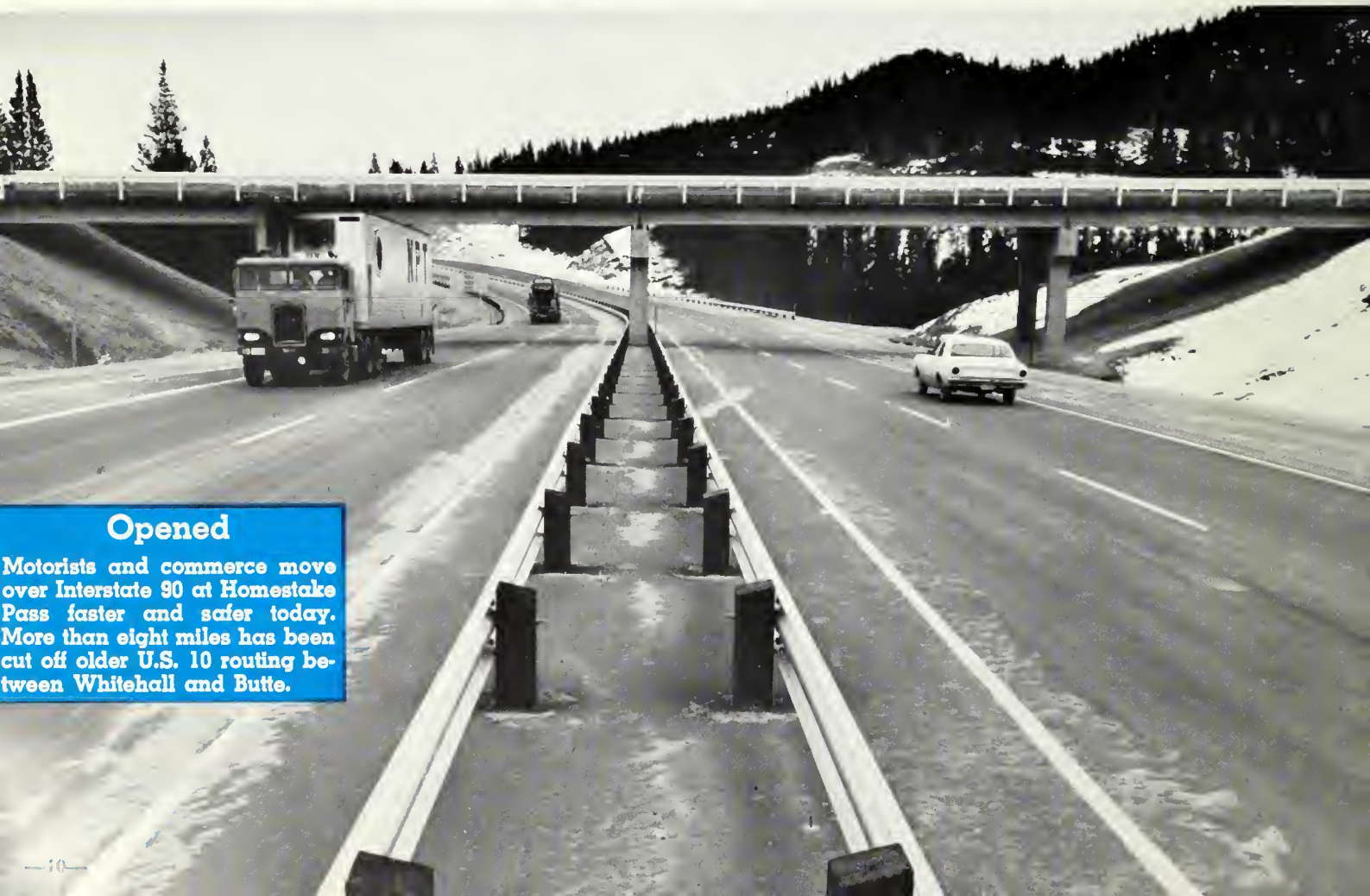
Interstate 15
Hardy Creek

State Highway Contracts Awarded And Completed During 1966

SYSTEM	CONTRACTS AWARDED DURING 1966		CONTRACTS COMPLETED DURING 1966	
	MILES	AMOUNT	MILES	AMOUNT
INTERSTATE	40.669	$14,204,381	82.394	$40,849,320
PRIMARY	102.097	13,171,967	84.427	10,393,066
SECONDARY	110.003	8,304,907	150.964	9,076,334
Subtotal—Construction	252.769	$35,681,255	317.785	$60,318,720
Other	1.288	813,268	.....	858,529
TOTAL	254.057	$36,494,523	317.785	$61,117,249

Dedicated

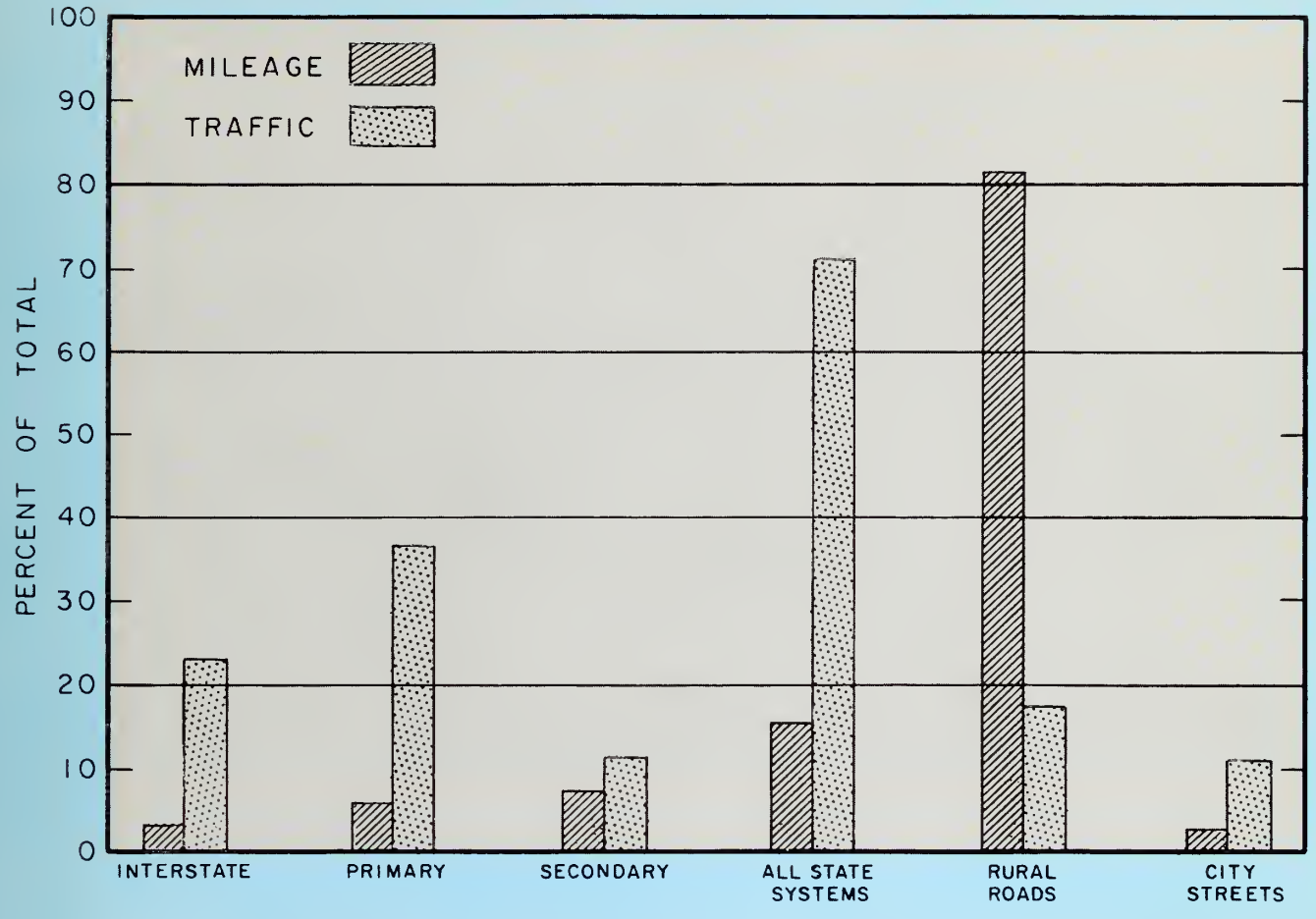
Official opening of Interstate 90 over Homestake Pass west of Butte on October 30, 1966. First Interstate crossing of the Continental Divide in Montana. Elevation 6,396 feet.



Opened

Motorists and commerce move over Interstate 90 at Homestake Pass faster and safer today. More than eight miles has been cut off older U.S. 10 routing between Whitehall and Butte.

SYSTEM MILEAGE AND TRAFFIC SERVED



A sufficiency rating procedure for the rural Primary System shows that 272 miles, or 6% of the total mileage, is in critical condition to the extent that it should be reconstructed immediately. Another 1,772 miles, or 39% of the total, is in such a deficient condition that it should be reconstructed within the next five to ten years. The remaining mileage is considered to be intolerable to excellent condition and should not require reconstruction until sometime after 1975. The rural Primary System as a whole is approximately 62% sufficient when compared with present standards.

The Secondary System is not rated under an established sufficiency procedure; however, there are 3,312 miles, or 58% of the total mileage, which do not have any type of paved surface. Of this amount, 2,585 miles have a gravel surface, with 727 miles having an earth surface.

Considerable emphasis has been placed recently on a highway safety improvement program which involves the reconstruction of short sections of highway which have proven to be hazardous. Attention is also being given to highway beautification by means of landscaping appropriate sites, construction of rest areas, and acquisition of areas adjacent to the highways to preserve and protect places of special scenic or historical interest. ■

Interstate 90
Bozeman

Future Needs . . .

It is expected that population in Montana will amount to 930,000 persons by 1985, an increase of 32% over the estimated 707,000 persons in 1965. During the same twenty-year period, it is anticipated that motor vehicle registrations will increase from 426,000 in 1965 to 700,000 in 1985, an increase of 64%. Traffic is also expected to increase from 3.7 billion vehicle miles in 1965 to 6.9 billion vehicle miles in 1985.

This amounts to an estimated 87% increase in traffic. In view of the anticipated growth of Montana, it is important that full consideration be given to improving State highways, rural roads, and city streets so that they can adequately serve future population, motor vehicles, and the traffic volumes that they generate.

A previous highway needs study, which was recently brought up to date, shows that an astounding amount of $2,086,526,000 in construction funds would be required to bring the State highway systems, rural roads, and city streets up to the standards required to adequately serve the traffic that is expected by 1985.

The details are shown in the accompanying table and graphs.

These cost figures represent construction expenses only and do not include any allowances for any other functions, such as maintenance or administration of the systems involved. Construction cost figures for the Interstate System include the amount of money required to complete the system to four-lane standards throughout and also a moderate allowance for minor reconstruction by 1985 of sections of highway which were constructed early in the Interstate improvement program.

Allowance is also made for increasing the mileage of the Primary System from the present figure of 4,716 miles to a new figure of 5,708 miles by 1985 to permit the addition of important highways to the system as need arises. Provision is also made for increasing the size of the Secondary System from the present figure of 5,702 miles to a new figure of 12,090 miles by 1985. The increased mileage for this system will be transferred from existing rural roads and city streets.

To achieve the objective of bringing the highways, roads, and city streets to standard will require $430 million for the Interstate System, $729 million for the Primary System, and

$571 million for the Secondary System, making a total of $1,730 million for the State highway systems.

The improvement of other rural roads will require $279 million, and other city streets will require $78 million in future construction funds.

A comparison of the construction money required to bring the State highway systems up to standard and the amount of money that will be available, based on current rates, shows that these systems could not be improved to satisfactory standards before **1995** without increased financing.

Upon completion of the Interstate System, emphasis must be shifted to other types of State highways, county roads, and city streets so that these facilities can provide the improved transportation service that is demanded as supported by future estimates of growth of population, motor vehicles, and traffic.

Future highways must be designed with safety provisions that will reduce the enormous toll of persons killed, injured, and property damages incurred. Such highways must also be designed with landscaping, rest areas, and other beautification features which will enhance the pleasure of the traveling public.

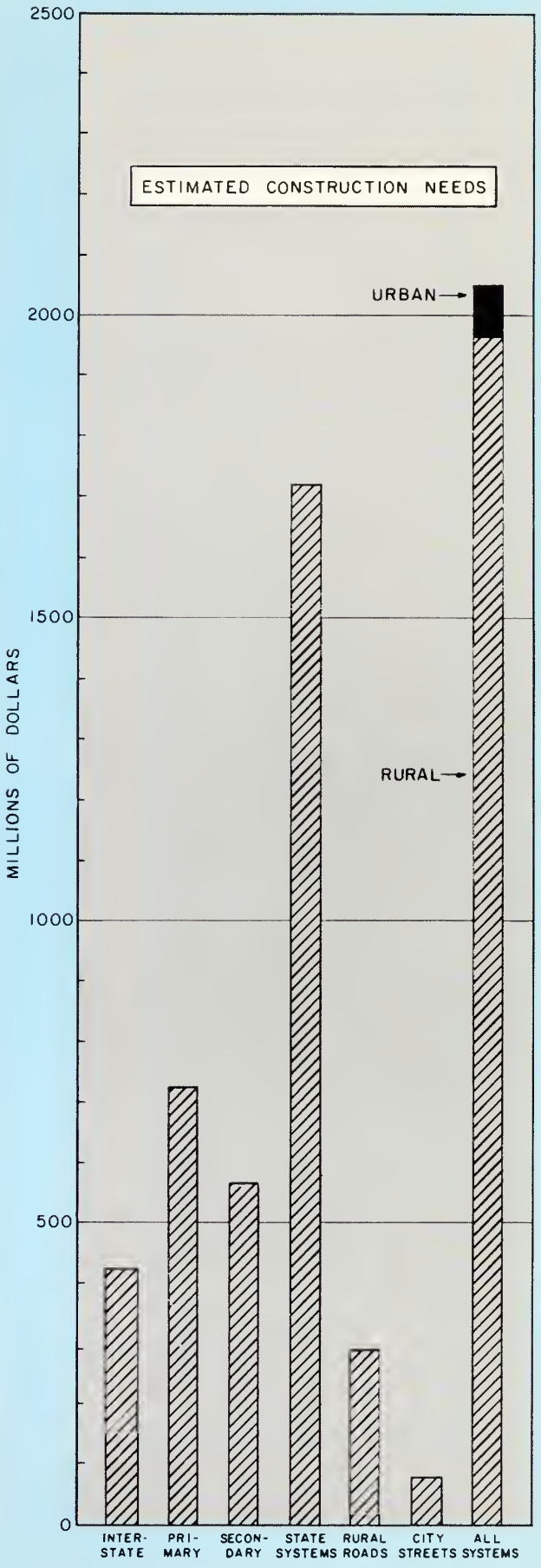
It has been proved many times that money invested in improving highway transportation facilities is soon returned to the highway user in reduced motor vehicle operating costs and accident costs, as well as reduced insurance premiums as the result of increased safety. ■

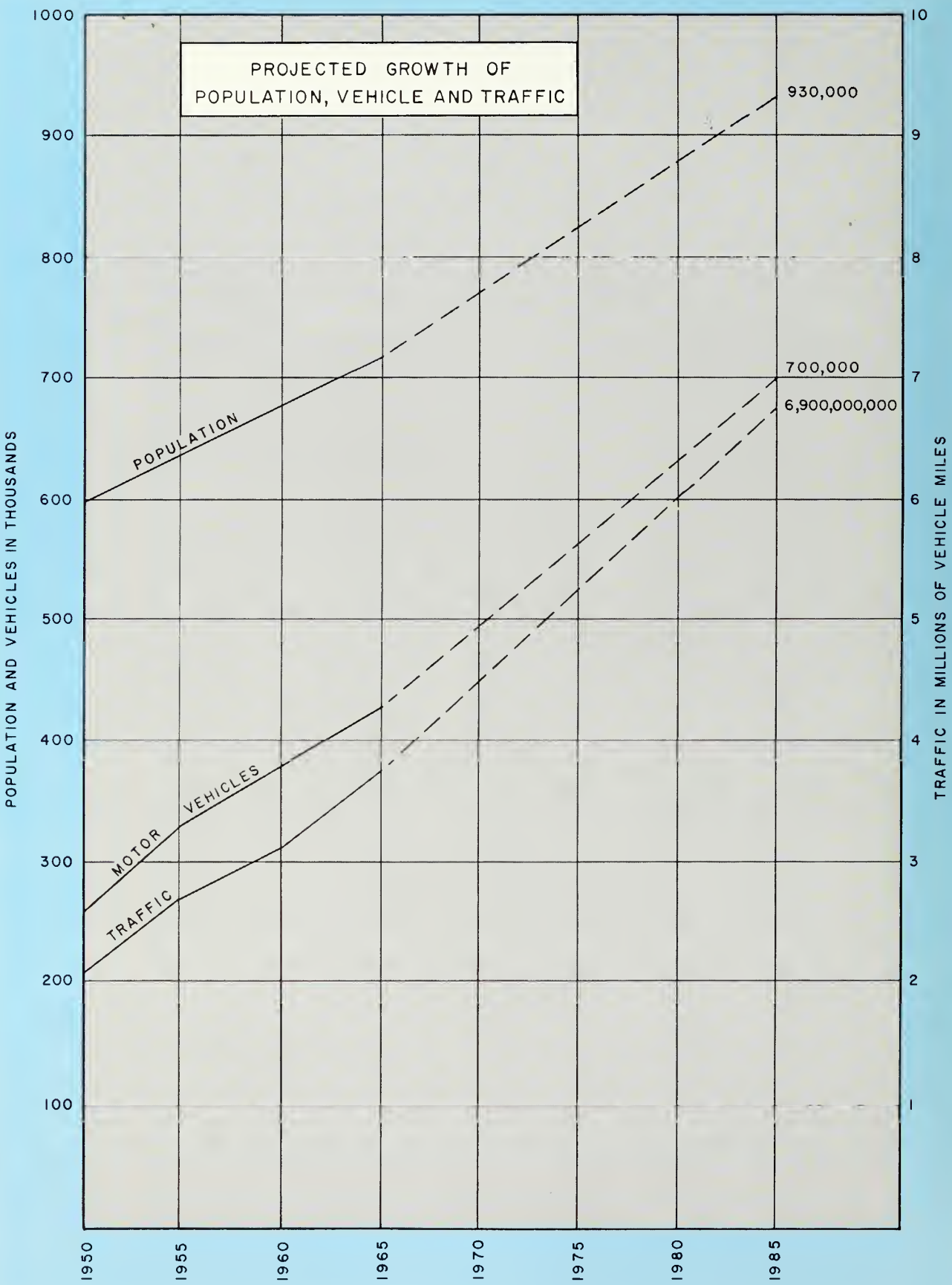
Estimated Cost of Improvements Needed For Highways, Roads and Streets to Serve Anticipated 1985 Traffic

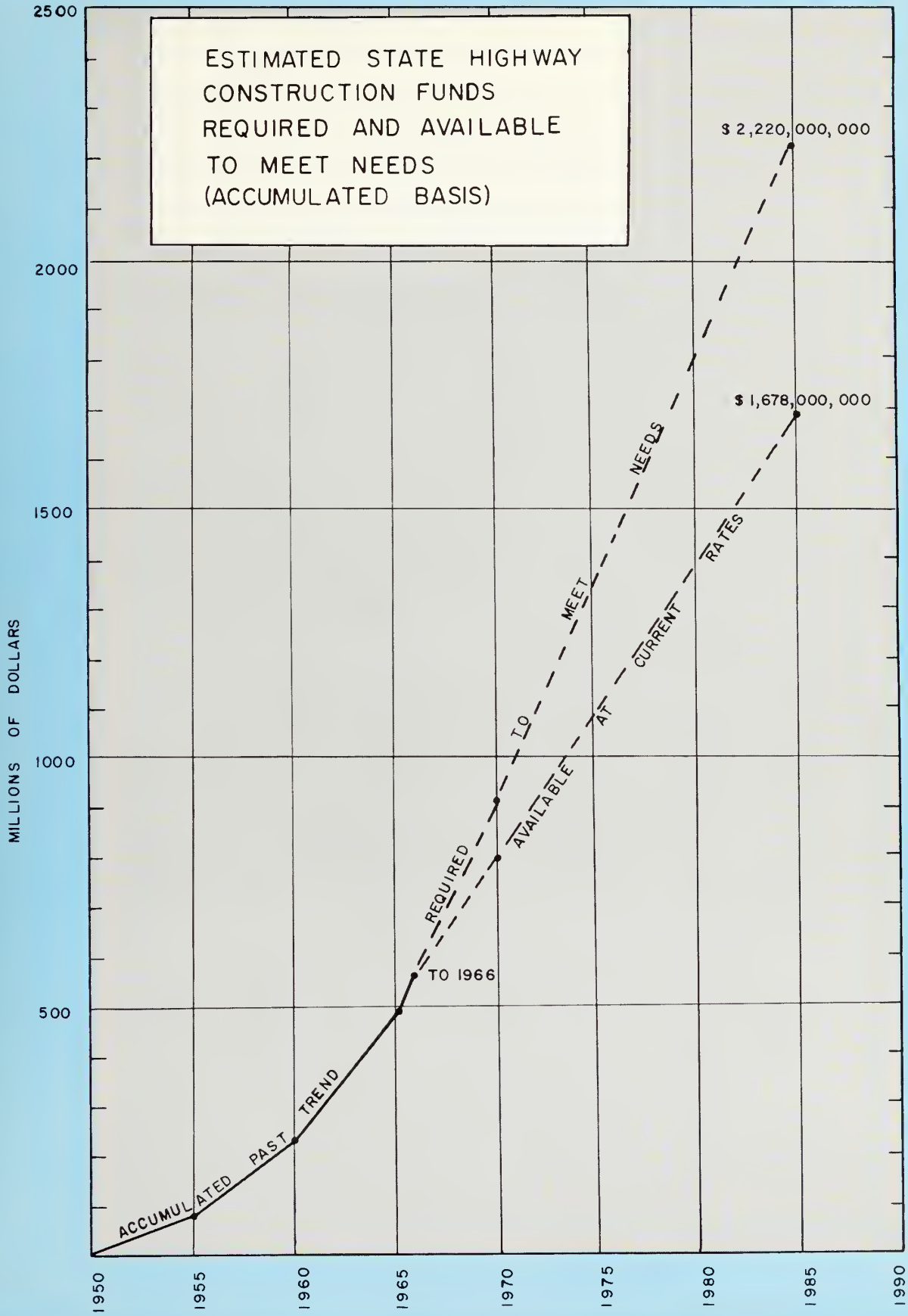
SYSTEM	MILEAGE	ESTIMATED DATA TRAFFIC**	CONSTRUCTION COSTS
Interstate—Rural	1,165	2,071	$ 417,214,000
Urban	12	40	12,576,000
Subtotal	1,177	2,111	429,790,000
Primary—Rural	5,569	1,940	697,570,000
Urban	139	480	31,177,000
Subtotal	5,708	2,420	728,747,000
Secondary—Rural	12,022	781	564,038,000
Urban	68	169	6,750,000
Subtotal	12,090	950	570,788,000
State Systems—Rural	18,756	4,792	1,678,822,000
Urban	219	689	50,503,000
Subtotal	18,975	5,481	1,729,325,000
Other Rural Roads	47,727	620	278,915,000
Other Urban Streets	1,951	659	78,286,000
Subtotal	49,678	1,279	357,201,000
All Systems—Rural	66,483	5,412	1,957,737,000
Urban	2,170	1,348	128,789,000
TOTAL	68,653*	6,760*	$2,086,526,000*

*—Excludes highways, roads and streets under Federal jurisdiction.

**—In millions of vehicle miles.




PROJECTED GROWTH OF
POPULATION, VEHICLE AND TRAFFIC
930,000
700,000
6,900,000,000
POPULATION
MOTOR VEHICLES
TRAFFIC
POPULATION AND VEHICLES IN THOUSANDS
TRAFFIC IN MILLIONS OF VEHICLE MILES
1000
900
800
700
600
500
400
300
200
100
10
9
8
7
6
5
4
3
2
1
1950
1955
1960
1965
1970
1975
1980
1985


ESTIMATED STATE HIGHWAY CONSTRUCTION FUNDS REQUIRED AND AVAILABLE TO MEET NEEDS (ACCUMULATED BASIS)
MILLIONS OF DOLLARS
2500
2000
1500
1000
500
1950
1955
1960
1965
1970
1975
1980
1985
1990
$ 2,220,000,000
$ 1,678,000,000
NEEDS
TO MEET
CURRENT
RATES
AT
AVAILABLE
REQUIRED
TO 1966
ACCUMULATED
PAST
TREND

Front Cover

Interstate 90 at Springdale along the Yellowstone River looking west.

Back Cover

U.S. 191 along Gallatin River heading for Yellowstone National Park.